

**COLOGNE CATHEDRAL.**—The 14th, 15th, and 16th of this month are set apart for celebrating the 600th anniversary of laying the foundation-stone of this world-famous building. We understand that the whole body of the cathedral is carried to a sufficient height throughout to receive a provisional roof, above which the work can proceed further without interruption.

[Advertisement.]

TO THE EDITOR OF THE BUILDER.

SIR,—A letter in the advertising columns of your last number, signed "Charles Francis and Sons," having reference to the results of "Experiments on Portland and Roman Cements," recorded in previous numbers of THE BUILDER, requires some remarks from ourselves, as the public would otherwise be greatly misled.

So far from allowing that our Roman cement was of inferior quality, we maintain that it was of the best manufacture, and that an explanation of the apparent difference in strength is to be found in a wholly different cause. Our blocks were tested at the age of thirty days, or one month, while those of Messrs. Francis were allowed to stand two to three months before being experimented upon.

The writers of the letter are pleased to say that in the case of the Portland cement, thirty days of age were essential to the result produced, but that with Roman cement it was unimportant, as that material "would have borne its same trial probably at the age of thirty hours!" We would inquire whether such assertion is grounded on any trial, or a gratuitous conjecture? We must suppose the latter; for we are able to state that a block of Roman cement at that age would hardly more than bear its own weight in lifting, and would crumble to pieces on the application of pressure.

The cement called "Nine Elms first quality" was composed of Sheppey-stone, a most excellent article, and manufactured nearly exclusively by their house and our own; but the price of this cement, owing to the small quantities in which the stone is obtainable, prevents its use by builders on any other than a limited scale. It is not, then, in the market for ordinary purposes.

The main object in these experiments was to test the value of Portland in comparison with Roman cement for general building purposes, and we find that a block of Portland cement, mixed with three parts sand, bears a pressure of twenty-five tons, while Roman cement, with only two sands, breaks up at three tons, shewing a superiority of right to one. We submit that this is the practical test, and would ask whether Messrs. Francis are prepared to shew a more advantageous result for their Roman cement, when so weakened with sand.

We have only to add, in conclusion, that the accounts of the experiments were collected by Mr. Grisell and ourselves at the time of testing, and have, of course, been subsequently agreed and compared with that gentleman's documents.

We are, Sir, your most obedient servants,

J. B. WHITE and SONS.

Millbank-street, Westminster,  
August 8th, 1848.

[Advertisement.]

TO THE EDITOR OF THE BUILDER.

SIR,—In our notice of experiments upon cements, which appeared in your last number, we adverted to the very indifferent quality of the Roman cement which had been subjected to comparison with the new cement; we did not, however, for a moment consider that any other than the best articles which the parties could produce had been supplied for the purpose, for it would, indeed, not have been ingenuous had they done otherwise.

We now refer to the series published on the 22nd ultimo, in THE BUILDER, which gives additional evidence of the correctness of our conclusion. The fact is stated, that Roman cement and Kentish rag-stone formed a joint that, at twenty-four days' age, required 1,455 lbs. weight to separate; that the same cement, with Portland stone, at the same maturity, was separated by 965 lbs.; but that, in other cases, the Roman cement joints being fifty-six days old, or more than double the first experiments, they separated with materially less weight; and a third experiment, with the same cement, shews that, as it grew older, it was growing weaker. Now, it is a well-known fact to every builder, and it is scarcely worth while to recall it, except in confirmation of our previous remark, that inferior cement is apt to, what is technically called, *give*—that is, after hardening to a certain extent, it relaxes its indurating and adhesive properties, and becomes daily more and more weak, until it frequently crumbles of itself: this may occur after an interval of a few weeks, or it may be a few months, but the difference between good and bad Roman cement is that, whilst one description holds firmly, the other does not; so that the comparison instituted between

these different cements cannot, on reflection, by the manufacturers themselves, be deemed of any value in the light in which they wish to place them.

The second series of experiments with Messrs. White's cements were not open, like those invited by Mr. Grisell, to competition, and therefore we are only able to quote in justification what we know to have been done on a previous occasion, and publicly done. The analogous experiments are with Bramley-fall stone and Kentish rag-stone; the latter being a material to which Portland cement, as those gentlemen tell us, will not adhere; and which the account given in your paper describes as "refractory and little absorbent." Sir Charles Pasley, however, records several trials of tearing Kentish rag blocks asunder, of which the joints were made with Roman cement of our manufacture: in one experiment, it required a weight of very nearly four tons to the superficial foot to accomplish it, our cement not having given; the age of the joint being forty-five days. Now if Portland cement make a firmer joint with Portland stone than with rag-stone, as the manufacturers of that cement assert, we think it not unfair to say, that as good Roman cement is to the new cement when used with Kentish rag, so it is to the new cement when used with Portland stone; and the advantage will be prodigious of using an old and well-known article: at all events, nothing is yet shewn to the contrary of this. Of a joint with Bramley-fall stone and our Roman cement, Sir Charles's experiments result to his mind in the opinion that the cement "is at least as strong as the stone, if not more so." All experience, however, proves that Kentish rag is a very fit material to lay in cement; that its adhesion is fully equal to that with bricks; and therefore, if instead of calling the stone *refractory*, we were to call the Portland cement *capricious*, we should say what is known to be the fact. This cement is, nevertheless, an improvement upon the article called "Front's Cement," although intrinsically the same, and made of the same ingredients; but experience of the latter material has caused its rejection altogether from the market. But if it be necessary to wait thirty days to attain to the effective strength of Portland cement, of what use would it be in such a work as the Thames Tunnel, where it is known that all sorts of cements were experimented upon? of what use in underpinning at such works as the Custom-house, London? or in the exposed foundations of the Britannia Bridge across the Menai Straits, in a strong current, and where, as it recently happened, the storm pelted pitilessly on the Roman cement when only a few hours' old? or, in any such works, every day required by civil engineers? The comparative experiments to which we have at so much length referred, lead to the inference that their Portland begins to be effective exactly where their Roman cement begins to let go its hold; indeed they prove this. And we have simply related existing evidence that such is not the case when compared with good Roman cement. Further we may add that the experiments made by Sir Charles Pasley, highly satisfactory as they prove, were not made with the article described by us in your last number as our "first quality."

We are, Sir, your obedient servants.

CHARLES FRANCIS AND SONS.

Nine Elms, Aug. 7, 1848.

## TENDERS.

Delivered on the 27th ult., for additions to Street Union Workhouse; Mr. T. Smith, of Hertford, Architect.

J. Cooke (Witham).....	£2,200 10
Armstrong and Smith.....	2,160 0
Messrs. Crabb and Jarey (Green).....	1,974 4
R. Lampert.....	1,898 0
Messrs. Curtis (Stratford), accepted.....	1,854 0
Wm. Blinder.....	1,740 0

The quantities were supplied by Mr. Watson, of Cam. bernell.

For Parsonage House at Sydenham; Mr. Moffatt, Architect.

	In Bath Stone.	If in Carr Stone.
G. Mansfield and Son.....	£1,330	1,350 0
W. C. Perry.....	1,320	1,310 0
Lock and Nesham.....	1,300	1,370 0
Glenn.....	1,274	1,312 0
T. Howard.....	1,222	1,213 0
Kell.....	1,222	1,244 10
Patrick.....	1,172	1,192 0
Cooper.....	1,166	1,250 0
Goulden.....	1,049	1,059 0

## TO CORRESPONDENTS.

"Stains from Marble."—A correspondent asks, "I should be much obliged if you or any of your numerous readers could inform me how to take out the stains of oil from a white statuary marble chimney-piece. The marble was covered, as usual, with soft soap and Fuller's earth, but it is supposed that there must have been oil in the mixture, or the brush with which it was laid on."

Revised.—"E. N., W. A., J. B. H., H. W. G." shall not be lost sight of in "next week"; "W. C." "Architectural Student," "C. C." (shall appear); "W. D." "S."

"Society for the Improvement of the Condition of the Labouring Classes, Series of Designs for Double Cottages for Labourers' Families." (Ester Hall.)

"Books, Prices, and Addresses."—We have not time to point out books or find addresses.

## ADVERTISEMENT.

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